



French No 806,869
Swiss " 183,097
Austrian " 152,204
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LTD., MOTOR CAR AND RAILWAY
CARRIAGE & WAGON BUILDERS, a Czecho-
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I, WILLIAM JOHN TENNANT, a British
Subject, of 111/112, Hatton Garden,
London, E.C.1, do hereby declare the
nature of this invention and in what
10 manner the same is to be performed, to
be particularly described and ascertained
in and by the following statement:—

The invention relates to a vehicle, more
particularly a trolley bus, wherein each
15 driving wheel is provided with an electric
motor disposed inside the rim of the
wheel, and the invention consists in that
the driving electric motor together with
the wheel driven by it are mounted on
20 the end of a half axle swinging in a trans-
verse plane and pivoted at or near the
longitudinal axis of the vehicle.

The construction according to the in-
vention has the advantage that the elec-
25 tric motor may be dismantled with the
transmission members, without having to
dismount the wheel or the half axle. In
addition, the half axle may be bent as
desired to answer the particular require-
30 ments of each case, so that for example
the pivoting point on the vehicle may be
arranged very low. Due to these circum-
stances, and due to the fact that the
electric motor is disposed in an other-
35 wise unoccupied space which is outside
the contour of the vehicle body and which
has in any case to be provided for the
wheel, the body and in particular the
floor thereof may be positioned substan-
40 tially lower and more roomy.

The invention is illustrated diagram-
matically by way of example in the ac-
companying drawing, which shows a sec-
tion transversely to the longitudinal
45 direction of a vehicle through a floating
semi-axle with motor and wheel pertain-
ing thereto.

The floating semi-axle 1, which may be
either straight, or bent as indicated in
50 chain lines, is pivoted at 2 to the centre
frame 3 of the vehicle. Advantageously,
the semi-axle may be hollow, so that it
can serve for accommodating the leads
supplying current to the electric motor.

55 On the end of the semi-axle, the stator 4

electric motor
pinion 6 secured
its movement

stationary spindles to an internally
toothed gear 8. The gear 8 is constructed
on the casing-like wheel body 9 which is
journalled in any suitable manner on the
axle 1. In addition, the wheel body 9
is provided with a brake drum 10, and
65 brake shoes 11 carried by a disc 12 secured
to the semi-axle 1 are adapted to be
brought into engagement with the said
brake drum in the usual manner. The
end opening of the wheel body 9 is closed
70 by a cover 13 which is readily detach-
able for inspection, effecting repairs or
completely removing the electric motor.
Instead of the single tyre 14, a double
tyre may be mounted on the wheel body. 75

Having now particularly described and
ascertained the nature of the said inven-
tion and in what manner the same is to
be performed, as communicated to me by
my foreign correspondents, I declare 80
that what I claim is:—

1. A vehicle, more particularly a
trolley bus, wherein each driving wheel
is provided with an electric motor dis-
posed inside the rim of the wheel, char-
acterised in that the driving electric mo-
85 tor is driven by it
together with the wheel driven by it
mounted on the end of a half axle swi-
ng in a transverse plane and pivoted
or near the longitudinal axis of
vehicle.

2. A vehicle as claimed in claim
characterised in that the half axles a
made hollow for accommodating the lea
supplying current to the electric motors

3. A vehicle as claimed in claim 1 or
2, characterised in that the bell-like wheel
body or hub of the wheel is closed on the
outside by a detachable cover protecting
the electric motor. 100

4. A vehicle according to any of the
preceding claims, characterised in that
for transmitting the movement from the
rotor of the motor to the wheel body, these
parts have a pinion (6) and an internally 105
toothed gear (8) respectively, between
which are interposed gear wheels (7) hav-
ing stationary spindles.

5. A vehicle as claimed in any of the
preceding claims, characterised in that 110